

REMARKS

Claims 1-26 and 60-84 are currently pending in the above-identified application. Claims 1-26 and 60-84 were rejected under 35 U.S.C. § 103(a). Applicant has amended the claims in order to address the Examiner's rejection, and respectfully requests reconsideration of the rejection and allowance of all claims.

I. REJECTION UNDER 35 U.S.C. § 103(a)

Claims 1-12, 14-21, 23-26, 60-70, 71-79 and 81-84 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over Aritake et al. (U.S. Patent No. 6,478,429), in view of Van De Witte et al. (U.S. 5,978,055) and Gilmour et al (U.S. Patent No. 6,122,028). Claims 13 and 17 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over Aritake, Van De Witte, and Gilmour, in view of Sonehara et al (U.S. 5,105,289). Claims 22 and 80 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over Aritake, Van De Witte, and Gilmour, in view of Sonehara, in view of Sekiguchi (U.S. 5,798,864). These rejections are overcome for the reasons stated below.

Aritake, Van De Witte, and Gilmour References

With respect to claims 1-12, 14-21, 23-26, 60-70, 71-79 and 81-84, a *prima facie* case of obviousness fails because the cited references, Aritake, Van De Witte, and Gilmour, either singly or combined, do not show, teach, or suggest an oblique anisotropic compensation element that is:

. . . operable with a projection lens to provide an azimuthally averaged, improved contrast image upon a display surface relative to an uncompensated image where the improvement to the image on the display surface is relatively independent of the point of view of an observer.

Aritake is relied upon by the Examiner as disclosing the elements of a projection system – modulating panels, light sources, and light-directing elements. But as the Examiner recognizes, Aritake does not disclose oblique anisotropic compensation elements, or for that matter any compensation elements to address the problem of off-normal incident light in the projector system. As described in the Applicant's application, this off-normal incident light in the projection context lowers a projection system's azimuth-averaged contrast, providing image degradation regardless of an observer's field of view. Applicant's claimed invention, in contrast to Aritake, improves azimuth-averaged context of an image projected upon a display surface.

Van de Witte is relied upon by the Examiner as disclosing a positive-anisotropy compensation element for an LCD display. The Van De Witte reference, however, does not at all teach the application of this type of compensator in the projection context, nor using it in such content to achieve an improved azimuth-averaged contrast. Van De Witte appears to relate only to the use of a compensator for a direct-view LCD display. Although Van De Witte is eliminated as an effective reference by its complete lack of teaching as to the use of compensations elements in the projection context, the conclusion that Van De Witte is doubly supported by the apparently related Van De Witte paper, P. van de Witte, et al., "Novel Compensation Foils for Active-Matrix TN Displays," *Soc'y for Information Displays Dig. 1997*, at 687-90, which has been cited in the attached IDS. This SID 97 Digest article shows Van De Witte to be completely devoted to the problem of optimizing viewing angle for an Active Matrix Twisted Nematic LCD display (AM-TN LCD). This, however, is not a principle that applies to the projection context, in which it is desired to improve the azimuth-averaged contrast of the projected image. Thus, the projected image would see a uniform improvement in contrast according to this azimuth

averaging, whereas the Van De Witte teachings only go to mitigating viewing angle problems in direct-view LCD displays.

Gilmour is alleged to show an LCD projector with first and second compensation elements on opposite sides of an LCD panel, but this allegation, even if true, does not go to the claimed elements of compensation elements being operable with the projection lens to provide an azimuthally averaged, improved contrast image upon the display surface relative to an uncompensated image, wherein the improvement to the image on the display surface is relatively independent of the point of view of an observer. In short, none of the references show, teach or suggest this approach. Applicant respectfully requests that rejection on this basis be reconsidered and withdrawn.

Aritake, Van De Witte, Gilmour, and Sonehara References

With respect to claims 13 and 71, as noted above, Aritake, Van De Witte, and Gilmour do not disclose all the claimed limitations. Likewise, Sonehara also does not disclose an oblique anisotropic compensation element that is:

. . . operable with a projection lens to provide an azimuthally averaged, improved contrast image upon a display surface relative to an uncompensated image where the improvement to the image on the display surface is relatively independent of the point of view of an observer.

Without this required limitation, Aritake, Van De Witte, Gilmour and Sonehara do not disclose each and every limitation recited in claims 13 and 71. Applicant respectfully requests that rejection on this basis be reconsidered and withdrawn.

Aritake, Van De Witte, Gilmour, Sonehara, Sekiguchi References

With respect to claims 22 and 80, as noted above, Aritake, Van De Witte, and Gilmour do not disclose all the claimed limitations. Likewise, Sekiguchi does not disclose an oblique

anisotropic compensation element that is:

. . . operable with a projection lens to provide an azimuthally averaged, improved contrast image upon a display surface relative to an uncompensated image where the improvement to the image on the display surface is relatively independent of the point of view of an observer.

Without this required limitation, Aritake, Van De Witte, Gilmour and Sekiguchi do not disclose each and every limitation recited in claims 22 and 80. Applicant respectfully requests that rejection on this basis be reconsidered and withdrawn.

Lack of suggestion or motivation to combine Aritake and Van De Witte:

First, the Examiner has the obligation to identify the suggestion or motivation to modify or combine any of the cited references to show, teach, or suggest all of the limitations of the recited claims. The teaching or suggestion to combine any of these references must be found in the prior art. MPEP §2142. Second, the Office Action must articulate a reasonable expectation of success in combining the cited references. MPEP §2143.

While Aritake does describe known architectures for projection system that use LCD panels, and while Van De Witte does describe oblique plate compensators being used next to LCD panels, Van De Witte is wholly devoted to solving a problem that does not exist in the projection context, which is that of diminishing field-of-view variations due to contrast asymmetries that exist in the direct-view context. Thus, one of ordinary skill in the art who examines Van De Witte would not think to use Van De Witte in the projection context. Further, Aritake speaks not at all of compensation for off-axis rays, and so it certainly does not invite the insertion of compensator elements, much less oblique plate compensators to improve azimuthally averaged contrast.

Applicant, however, discovered that oblique plate compensators could be used to uniformly improve the azimuthally averaged contrast of a projection display, thereby applying oblique plate compensators in this surprising context. This surprising result can only be seen in the light of Applicant's teaching regarding the use of oblique plate compensators in the projection context to improve azimuthally averaged context. No combination or suggestion of the improvement gained by this combination is seen in the references themselves, and thus any attempt to make this combination is one instructed by hindsight reasoning, which has, of course, long been impermissible under U.S. patent law.

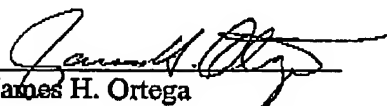
The motivation cited by the Examiner relating to Van De Witte, col. 2, lines 23-42, appears to relate to a method of manufacturing a compensated LCD having retardation foils on either side of a supporting LCD substrate in order to avoid coupling between the retardation foils, whereby the substrate will separate the layers during the manufacturing process to enhance isolation. This so-called motivation has nothing to do with the claimed construction of placing an oblique plate compensator next to an LCD panel in order to improve azimuthally averaged contrast in a projection system.

The motivation cited by the Examiner relating to Gilmour, col. 2, line 65 – col. 3, line 27, similarly does not appear to relate to improving azimuthally averaged contrast as claimed in Applicant's projection system. Gilmour's teaching only relates to compensation of chromatic effects induced by LCD panels. Gilmour does not relate in any way to the use of oblique plate compensators in projection systems.

CONCLUSION

In view of the foregoing remarks, Applicant respectfully submits that the pending claims are in condition for allowance, and favorable action is hereby requested. If a telephone interview would be of assistance in advancing prosecution of the subject application, the Examiner is requested to telephone the undersigned at the number provided below. If the Commissioner determines that additional fees are due, please charge our Deposit Account No. 13-0480, Attorney Docket No. 95121961-207001.

Respectfully submitted,


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